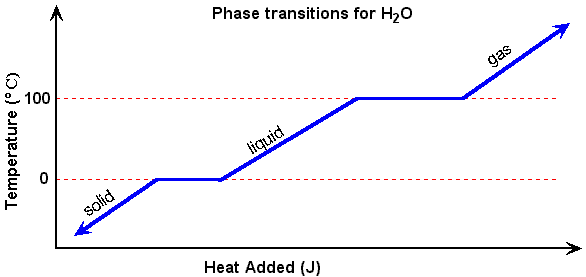
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**AP Biology: Unit 4, DBA #2 Review**

Ms. OK, 2014-2015

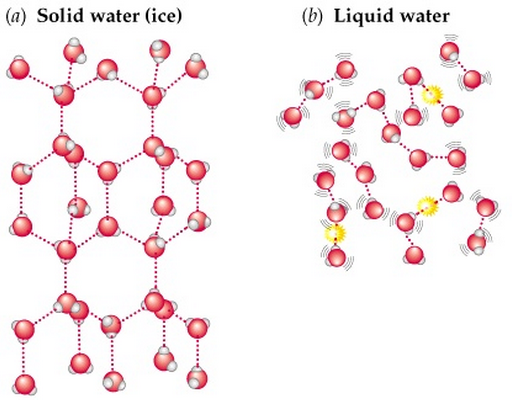
**Objectives Assessed:** Topic 1 (Properties of Water), Learning Targets D-G

***Practice Questions:*** *Answer the following questions thoroughly and accurately in preparation for your Daily Biology Assessment.*



1. Explain why the temperature of water changes very little as it changes phase from solid to liquid and liquid to gas. Use the term “high specific heat / heat capacity” in your response.

2. Explain why a water strider insect can walk on the surface of a lake or pond. Use the terms hydrogen bonding, cohesion, and surface tension in your response.



3. Explain why ice floats on liquid water. Use the term “hydrogen bonds” in your response. Use the image to the right to help you answer the question.

4. Describe the difference between a hydrophobic and hydrophilic substance. Use the term “hydrogen bonds” in your response.

5. Define capillary action and explain how adhesion and cohesion cause capillary action.

6. Explain why water is a polar molecule and explain how water’s polarity contributes to its ability to form hydrogen bonds with other water molecules.

7. If water molecules surround a solute particle with their oxygen ends all pointing to the solute particle, what can you conclude about the charge of the solute particle? Is it positive, negative, or neutral, and how do you know?

8. How does the concentration of hydrogen atoms in a solution with a pH of 2 compare with the concentration of hydrogen atoms in a solution with a pH of 5?

*Ex: “The concentration of hydrogen atoms is 10 times lower in a solution with a pH of 2 than a pH of 1.”*